

REMARKS

Claims 1-26 and 30-35 are pending. Applicants respectfully request reconsideration and reexamination of the pending claims.

In that regard, Applicants note that they have previously explained the operation of what is meant by prior art "second-surface" optical disks as opposed to the claimed inventive "first-side" optical disks: In particular, the relatively thick substrate of a second-surface disk helps defocus dust particles that overlay this relatively thick substrate with respect to a laser beam that passes through the substrate to reach underlaying information layers. As would be appreciated by those of ordinary skill in the art, this laser beam arrives from a far field source. In general, what is considered "far field" depends upon the wavelength. Once you are many wavelengths away a source, you are in the far field. This is what governs conventional lens manufacture such as for the familiar use of eyeglasses as well as in most optical disk drive. As shown by the Daimon reference (USP 6,346,309), there are "near field" optical disk drives. In such drives, a solid immersion lens (SIL) rides very close to the optical disk surface. It is so close that a quantum mechanical tunneling effect is involved for light transmission between the SIL and the immediately adjacent disk.

In sharp contrast, the claimed optical coupling layer, in for example, claim 1 is directed to a conventional far field coupling. In the far field, focusing is controlled by conventional ray tracking as governed by the index of refraction and shape of the involved structures. That Applicants are describing far field focusing throughout the application is abundantly inherent – for example, the defocusing layer of a second surface disk has no meaning in a near field (SIL) disk such as disclosed in Daimon. As set forth in MPEP § 2163.07(a), Applicants may amend their claims to make explicit an inherent function that would be recognized "by persons of ordinary skill." Here, Applicants have plainly satisfied this inherency and may thus amend the optical coupling layer be "adapted to optically couple the second metal/alloy layer to air a laser beam arriving from a far-field source" as set forth in claim 1. Similar amendments are made to claims 12 and 35 and have the same support.

The prior art stands in sharp contrast. For example, consider the Daimon reference (USP 6,346,309). As discussed with respect to Figure 2 in this reference,

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between the single recording layer 4 is a stack formed by a dielectric layer 5 and protective layer 6. This stack cannot possibly function as the claimed "first optical coupling layer" because the stack in Daimon couples the recording layer to the solid immersion lens: if it coupled to a far field source, the disk in Daimon would be inoperative. Thus there can be no motivation to modify the evanescent wave recording disk in Daimon to provide the inventive first side disk of claim 1. Accordingly, claim 1 is patentable over Daimon.

The Yasuda reference (USP 6,511,788) adds nothing further. Yasuda has been cited because "for some wavelength with which the recording layer of Yasuda et al. '788 is useful, the protective layer (the acrylic layer) optical thickness (the product of the physical thickness and the refractive index) is antireflecting." Although Applicants admire the creativity behind this rejection, they respectfully submit that Yasuda does not satisfy the requirements for such inherent anticipation. As set forth in MPEP 2131.01(paragraph III), an reference establishes an inherent anticipation if "the missing descriptive matter is necessarily present in the thing described in the reference." (emphasis added). Thus, it is not sufficient to imagine or suppose that the protective layer in Yasuda acts to optically couple an underlying information layer to a far field source – it must be necessary that Yasuda discloses such a layer. Here, that is plainly not the case -- As acknowledged in the Office Action, the protective layer in Example 5 of Yasuda is disclosed to be between 10 and 177 microns thick, which is not a suitable thickness for the claimed optical coupling layer.

The Takeda reference (USP 6,210,609) also adds nothing further: As discussed in Col. 5, the protective layer is at least 100 microns thick. This thickness is grossly thicker than an "optical coupling layer" which as discussed in the response of September 1, 2004 is merely a fraction of a wavelength in thickness as known in the art. Such a thickness has no defocusing effect but rather an anti-reflective effect. In contrast, the protective layer in Takeda would have a strong defocusing effect. It does not function as an optical coupling layer.

Finally, the Holster reference (USP 4,450,553) also adds nothing further. As seen in Figure 1 and discussed in Col. 9, line 52 through Col. 10, line 16, discloses an optical disk having a 1 mm thick substrate 1. On opposing surfaces of the substrate are

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formed reflection layers 5. As seen in Figure 1, the disk is configured such that the reflection layers are read by a laser beam that passes through the substrate. As such, it is similar to a "multiple substrate" approach in that dust particles on the surface of one reflection layer will be out-of-focus with respect to a laser beam passing through the substrate that is focused on the opposing reflection layer. This approach is quite different from the "one-side" configuration recited in claim 1 and teaches away from the "optical coupling layer" limitation recited therein.

In view of the above discussion, Applicant respectfully submits that claim 1 is patentable over these references used individually or in combination. Because claims 2 through 11, 18 through 26, and 30 through 34, and 58 depend either directly or indirectly on these references, they are patentable for at least the same reasons. In view of the Applicants' amendments to claim 1, the relevance of the other references cited by the Examiner (Wilting, Nishiuchi, Pan, Sugita, Allebest, Nakahara, Gotoh, and Mumford) is mooted because they provide nothing further to correct the deficiencies in the previously-discussed references.

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CONCLUSION

For the above reasons, pending Claims 1-26 and 30-35 are in condition for allowance and allowance of the application is hereby solicited. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 752-7040 is welcomed and encouraged.

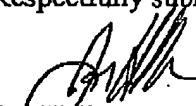
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